RUTGERS
Edward J. Bloustein School
of Planning and Public Policy

Alan M. Voorhees Transportation Center
Rutgers, The State University of New Jersey
33 Livingston Avenue
New Brunswick, New Jersey 08901

www.policy.rutgers.edu/vtc

732-932-6812
Fax 732-932-3714

NARRATIVE PROGRESS REPORT

Date prepared: 7/28/2008

PROJECT INFORMATION:

Project Title: Transportation Impact on the Economy	
Problem Statement No. N/A	NJDOT Task Order No. N/A
Study Start Date: 1/1/2008 Study End Date: 6/30/2009	Reporting Period: 4/1/2008 – 6/30/2008
NJDOT Project Manager: Ed Kondrath	Principal Investigator: Joseph J. Seneca

PERCENT OF WORK COMPLETED:

Activity	**% of Task Complete**
Task 1 – Conduct comprehensive literature review and current practice scan	85%
Task 2 – Estimate the aggregate impact of highway investment on the NJ economy	30%
Task 3 – Estimate the direct and indirect impacts of transportation infrastructure expenditures on the economy	40%
Task 4 – Estimate the effects of cost reduction due to transportation investments	30%
Task 5 – Synthesize data results, identify policy implications and formulate recommendations	0%
Task 6 – Prepare quarterly progress reports, draft and final reports	10%
Task 7 – Disseminate research results and conduct agency/legislative briefings	0%

NJDOT Concurrence: _____

Name Title Date

PROGRESS BY TASK FOR THIS REPORTING PERIOD

The following activities were undertaken by the project team during this reporting period:

Task 1 – Conduct general literature and best practices scan

- Literature reviews relevant to the various parts of the analysis continue to be conducted as the project progresses (see Task 2).

Task 2 – Estimate the aggregate impact of highway investment on the NJ economy (Exhibit C)

- Dr. Ozbay and his team are in the process of comparing old NJTPA model with the latest one that runs using CUBE to understand if there are any major differences. Four road improvements that were evaluated with the old model are being used for this purpose.
- One immediate outcome of this exercise is the need for updating the data structure of our cost estimation post processor – NJCOST. This is being done now.
- Dr. Ozbay's team is also in the process of reviewing the literature related to the benefits of relatively minor maintenance projects, as a major portion of the DOT budget is being used to perform these types of projects. Preliminary findings show that most of these studies are done in countries other than USA, but the team continues to look for U.S.-based examples.
- One of the questions raised during the last quarterly report meeting was the need to assess the impact of travel time reliability on accessibility (Intelligent Transportation Systems technologies are in general used to improve travel time reliability). This is a new addition that was not included in the original proposal, but is being further explored based on the interest shown by the sponsor.
- Dr. Ozbay's team have also completed a review of studies dealing with travel time reliability using planning models similar to the NJTPA model.
- They have also developed a preliminary algorithm that can be used to conduct this kind of reliability-based analysis for large networks. The algorithm has already been tested on a small network, and the team is now in the process of using the algorithm's output to quantify the benefits of improved reliability. The next step will be to map various ITS technologies to different levels of reliability improvements. However, this step is not trivial and will require further work.

Task 3 – Estimate the direct and indirect impacts of transportation infrastructure expenditures on the economy (Exhibits A and B)

- Continued classification of Capital Plan projects by program, size and type, for program-level aggregation in final analysis. This process will draw on both the NJTPA and NJDOL classification schemes. This process is near completion.
- Continued classification of past projects for creation of average cost functions by type, size and location.
- Assignment of line items in past project bid sheets to a smaller group of cost categories to be used for input-output modeling.
- See attached exhibits for a description of the above processes, as well as frequency distributions describing both datasets.

Task 4 – Estimate the effects of cost reduction due to transportation investments (Exhibit D)

- Based on the analysis of transportation consumption by industries in the state of New Jersey that was presented at our first quarterly meeting, a new simulation was conducted of the statewide economic impacts of a 10% reduction in transportation costs for all industries. While an across-the-board 10% reduction in transportation costs to industry is not expected to result from the infrastructure improvements described in the Capital Plan, this simulation is intended to demonstrate the ripple effects on the economy of the state if reductions in costs to industry do occur.

Task 5 – Synthesize data results, identify policy implications and formulate recommendations

- Not yet begun.

Task 6 – Prepare quarterly progress reports, draft and final reports

- Second quarterly report prepared and submitted with exhibits.

Task 7 – Disseminate research results and conduct agency/legislative briefings

- Not yet begun

OTHER – General project administration activities

- Undertook general project management activities, including project planning, internal coordination meetings and conference calls, budget and accounting.

LIST OF EXHIBITS:

A. Schematic of project categorization and matching process for input-output analysis of construction impacts.
B. Narrative and tables accompanying Exhibit A.
C. Handout on progress to date of model updates and reliability analysis.
D. Narrative summary and tables of simulation of cost reductions to business.
E. List of potential projects for analysis

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Transportation Impact on the Economy

BUDGET SYNOPSIS

Task No.	Task Description	Percent of TPC	Cost of Task	Current Billing		Previously Billed		Cumulative Expenses	
				Percent Complete	Cost	Percent Complete	Cost	Percent Complete	Cost
1	Literature review and current practice scan	4%	$9,053	25%	$2,263	60%	$5,432	85%	$7,695
2	Estimate aggregate impact on the economy	32%	$66,252	15%	$9,938	15%	$9,938	30%	$19,876
3	Estimate the direct and indirect impacts of transportation infrastructure expenditures on the economy	10%	$20,736	20%	$4,147	20%	$4,147	40%	$8,294
4	Estimate the effects of cost reduction due to transportation investments	19%	$38,524	15%	$5,779	15%	$5,779	30%	$11,558
5	Synthesize data results, identify policy implications and formulate recommendations	13%	$26,153	0%	-	0%	-	0%	-
6	Prepare quarterly progress reports, draft and final reports	14%	$29,092	5%	$1,455	5%	$1,455	10%	$2,910
7	Disseminate research results and conduct agency/legislative briefings	9%	$17,960	0%	-	0%	-	0%	-
	TOTAL	**100%**	**$207,769**		**$23,582**		**$26,751**		**$50,333**
	Additional / Extra Work								

TPC = Total Project Cost

NOTE: The amounts reported above are estimates for reference purposes only and should not be used for official accounting purposes. For a more accurate accounting of project expenditures, please refer to the official invoice for this project issued by Rutgers University Division of Grant and Contract Accounting.

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Name Title Date